



AMENDMENTS TO THE DRAWINGS

Replacement formal drawings for Figs. 7 and 8 have been filed concurrently.

REMARKS

In view of the above amendments and following remarks, reconsideration and further examination are requested.

Initially, replacement formal drawings have been provided for Figs. 7 and 8 so as to designate these figures as --Prior Art-- as instructed by the Examiner.

The specification and abstract have been reviewed and revised to make editorial changes thereto and generally improve the form thereof, and a substitute specification and abstract are provided. No new matter has been added by the substitute specification and abstract.

By the current Amendment, claims 1-22 have been canceled and claims 23-42 have been added. These new claims have been drafted taking into account the 35 U.S.C. § 112, second paragraph, issues raised by the Examiner, are believed to be free of these issues, and are otherwise believed to be in compliance with 35 U.S.C. § 112, second paragraph.

The instant invention pertains to an oxide fuel cell and a separator that is a component of the oxide fuel cell. The oxide fuel cell comprises a fuel electrode layer and an oxidant electrode layer on opposite surfaces of a solid electrolyte layer, respectively, a fuel electrode current collector and an oxidant electrode current collector positioned outside the fuel electrode layer and the oxidant electrode layer, respectively, and a first separator and a second separator positioned outside the fuel electrode current collector and the oxidant electrode current collector, respectively. Such an oxide fuel cell is generally known in the art, but suffers from drawbacks as explained on pages 1-7 of the original specification. Applicants have addressed and resolved these drawbacks by providing a unique separator to be used as each separator in the oxide fuel cell.

Specifically, with reference to Figs. 2(a) and 2(b), for example, the inventive separator includes a first thin metal plate 21 laminated on a second thin metal plate 22, wherein the first thin metal plate has a first gas discharge opening 25 and second gas discharge openings 24 positioned outwardly of the first gas discharge opening, and wherein the second thin metal plate has an indented surface such that channels defined by the indented surface face the first thin

metal plate and are in fluid communication with the first gas discharge opening and the second gas discharge openings. New claim 33 is believed to be representative of the inventive separator, and new claim 23 is believed to be representative of the oxide fuel cell including the inventive separator.

Claims 1-3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over JP '682 in view of Fan et al. New claims 23 and 33 are believed to be non-obvious over a combination of JP '682 and Fan et al. for reasons to follow.

JP '682 discloses a solid type fuel cell including a separator 12, which separator includes a first gas discharge opening surrounded by second gas discharge openings; however, the construction of the separator as recited in each of claims 23 and 33 is not taught or suggested by JP '682, and would not have been obvious to one having ordinary skill in the art.

In this regard, the separator as recited in claims 23 and 33 requires

a first thin metal plate laminated on a second thin metal plate...
with said first thin metal plate having a first gas discharge
opening...and also having second gas discharge openings
positioned outwardly of said first gas discharge opening...and
with said second thin metal plate having an indented surface
such that channels, defined by said indented surface, face said
first thin metal plate and are in fluid communication with said
first gas discharge opening and said second gas discharge
openings so as to guide...gas to said first gas discharge opening
and said second gas discharge openings.

Such a construction is lacking from JP '682.

In this regard, though JP '682 discloses that the separator thereof has an indented surface, this indented surface does not function to guide gas to the discharge openings thereof, but rather, the discharge openings supply gas to the indented surface. Accordingly, even if the separator of JP '682 were made from laminated plates as opposed to a single plate, as suggested by the Examiner, the separator as recited in claims 23 and 33 would still not be shown.

Specifically, if the single plate separator of JP '682 were constructed from two laminated plates, then these plates would not be positioned as required by claims 23 and 33. That is, the

plate having the indented surface would be laminated on the plate having the gas discharge openings such that gas would be guided from the gas discharge openings to channels defined by the indented surface, which is contrary to what is required by each of claims 23 and 33.

Fan et al. does not resolve the above deficiencies of JP '682, and accordingly, claims 23 and 33 are also allowable over JP '682 and Fan et al. either taken alone or in combination, whereby claims 23-42 are allowable.

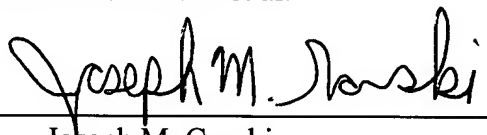
Additionally, claims 30-32 and 40-42 are believed to be patentable in their own right because these claims recite features of the separator that are not taught or suggested by JP '682.

In view of the above amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and an early Notice of Allowance is earnestly solicited.

If after reviewing this Amendment, the Examiner believes that any issues remain which must be resolved before the application can be passed to issue, the Examiner is invited to contact the Applicants' undersigned representative by telephone to resolve such issues.

Respectfully submitted,

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